



RADM Richard Brooks

Commander, Naval Safety Center

Secretary Rumsfeld's Challenge



THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

May 19, 2003

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL OF THE DEPARTMENT OF
DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF
DEFENSE
DIRECTOR, OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, FORCE TRANSFORMATION
DIRECTOR, NET ASSESSMENT
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Reducing Preventable Accidents

World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years. ~~These goals are achievable, and will directly increase our operational readiness. We owe no less to the men and women who defend our Nation.~~

I have asked the Under Secretary of Defense for Personnel and Readiness to lead a department-wide effort to focus our accident reduction effort. I intend to be updated on our progress routinely. The USD(P&R) will provide detailed instructions in separate correspondence.



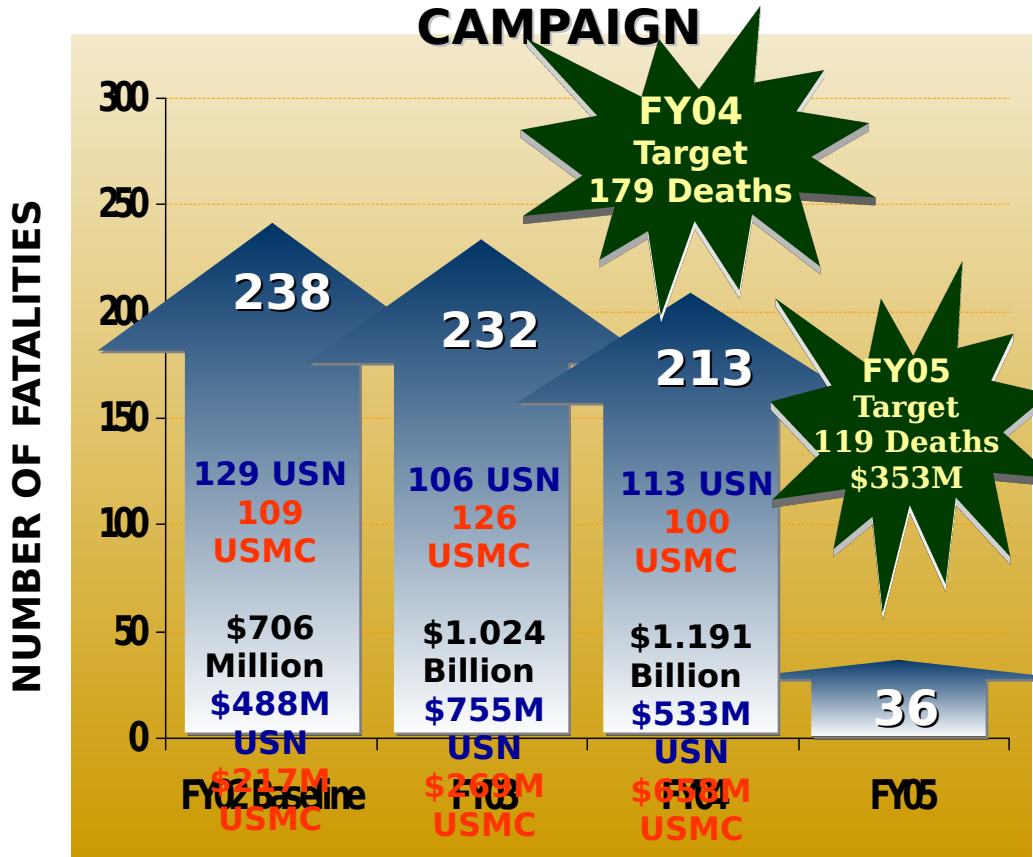
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“World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years.”

Memorandum from Secretary of Defense
19 May 2003

Where We Are

FATALITIES & RESOURCES LOST DURING 50% MISHAP REDUCTION CAMPAIGN



We have experienced
36 deaths in FY05
(23 USN & 13 USMC)

25 PMV Deaths
(16 USN & 9 USMC)

Our FY05 50%
mishap reduction
goal is 119.

in FY04!

**OUR ENDSTATE GOAL IS
ZERO!**

Magnitude of Accidents

In FY04, Navy and Marine Corps Mishaps Resulted In:

NAVY

- **1 Navy death every 78 hours (3 days)**
- **1 POV death every 120 hours (5 days)**
- **1 Aviation death every 73 days**
- **1 Active duty military injury every 6 hours**
- **1.8 Military members hospitalized every day**
- **11.33 Civilian man-years lost**
- **1 Aircraft destroyed every 41 days**
- **\$1.33 Million a day in aviation losses**

MARINE CORPS

- **1 Marine death every 88 hours (4 days)**
- **1 POV death every 191 hours (8 days)**
- **1 Aviation death every 26 days**
- **1 Active duty military injury every 25 hours**
- **1.9 Military members hospitalized every day**
- **2.53 Civilian man-years lost**
- **1 Aircraft destroyed every 19 days**
- **\$1.74 Million a day in aviation losses**

NSC Data: 02 December 2004

Areas of Greatest Concern for USN/USMC

The Largest Challenge: Aviation - Traffic - Recreation!



FISCAL YEAR	COST	
	OVERAL L	AVIATIO N
FY00-04	\$4.4M	\$3.8M
FY02	\$683M	\$587M
FY03	\$1.024M	\$956M
FY04	\$1.192B	\$1.123B
FY05	\$160M	\$158M

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

DEATHS								
OVERAL L	%	PMV			RECREATION			
		Air	Afloat	Shore	Air	Afloat	Shore	%
1,071	582 54%	90	124	368	149 14%	29	35	85
238	140 59%	30	32	78	32 13%	9	5	18
232	119 51%	17	31	71	32 14%	9	6	17
213	119 56%	16	20	83	32 15%	4	9	19
36	25 69%	3	6	16	5 14%	1	1	3

NSC Data: 02 December 2004

Commander's Assessment

TOP CONCERNS

- **Status Quo Will Not Get the Job Done.**

Good programs exist and have produced some good results, but...

- Off-Duty (PMV, REC) the challenge

- 50% Mishap Reduction Campaign NOT consistently reaching deckplates

- Cultural change takes time

- **Leadership and Accountability Required.**

Most mishaps can be prevented with appropriate intrusive leadership and involvement at every level.

- **Cradle to Grave Training as Long-Term Fix.**

5 Vector Model being worked by Navy Center for Personal Development.

- **Safety Center & Navy-Marine Corps Focus.**

Predictive and Preparative vice Reactive.

- **Utilize All Available Safety Resources.**

Army Safety Management Information System, Traffic Safety Toolbox, Leave/Liberty Risk Assessments, etc.

- **Emphasize Safety and Risk Management "24x7."**

A way of life. Not a concept that gets increased emphasis post-mishap.

- **Balanced Acquisition Approach.**

Balanced acquisition approach for platforms and COTS/emergent technologies to reduce mishaps.

- **ORM is Getting There, But More to Do to Ingrain It On and Off-**

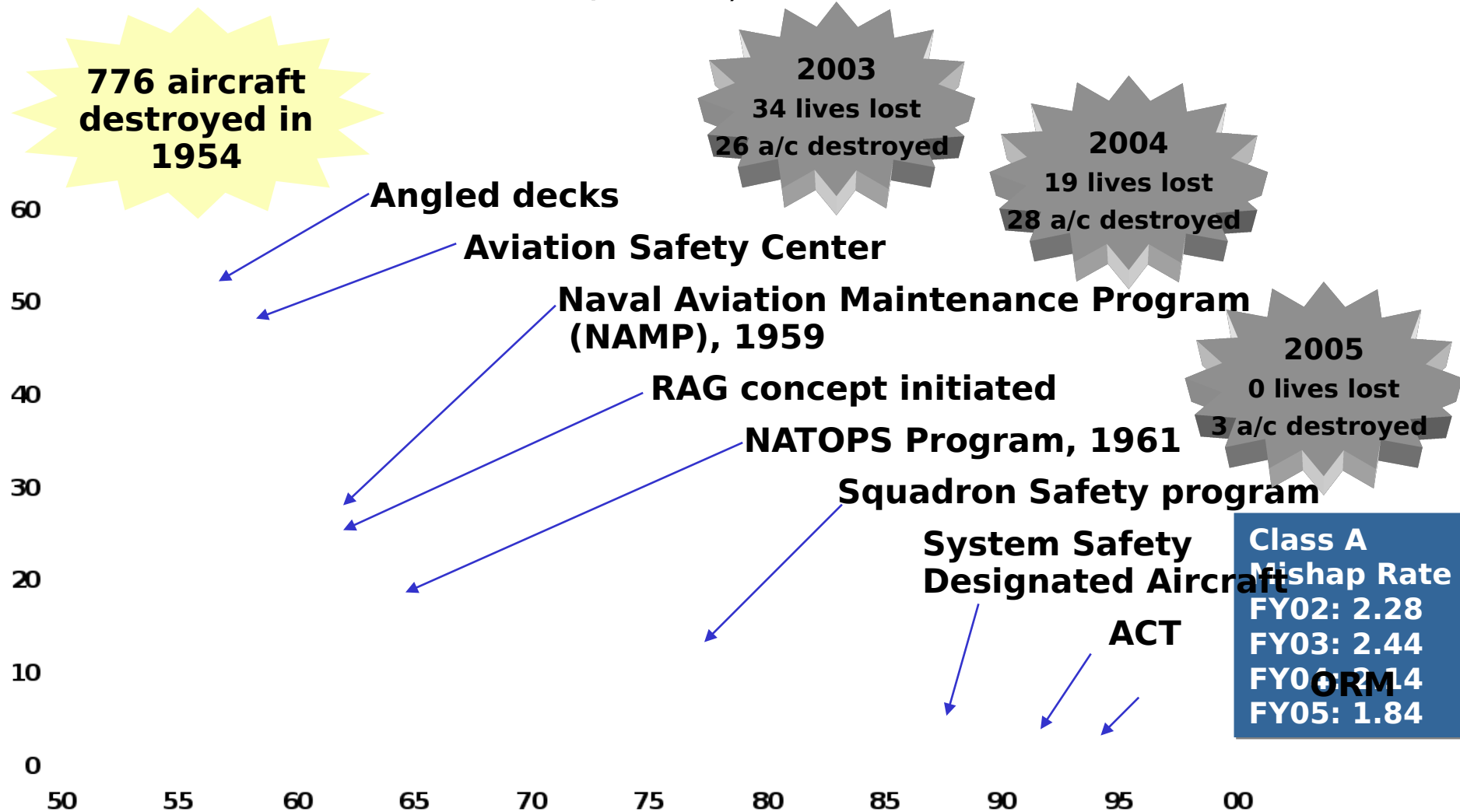
- **Duty.**

- **Bottom Line**

PLATFORM MISHAP REDUCTION - ACHIEVABLE. OFF-DUTY - HARD

Naval Aviation Mishap History

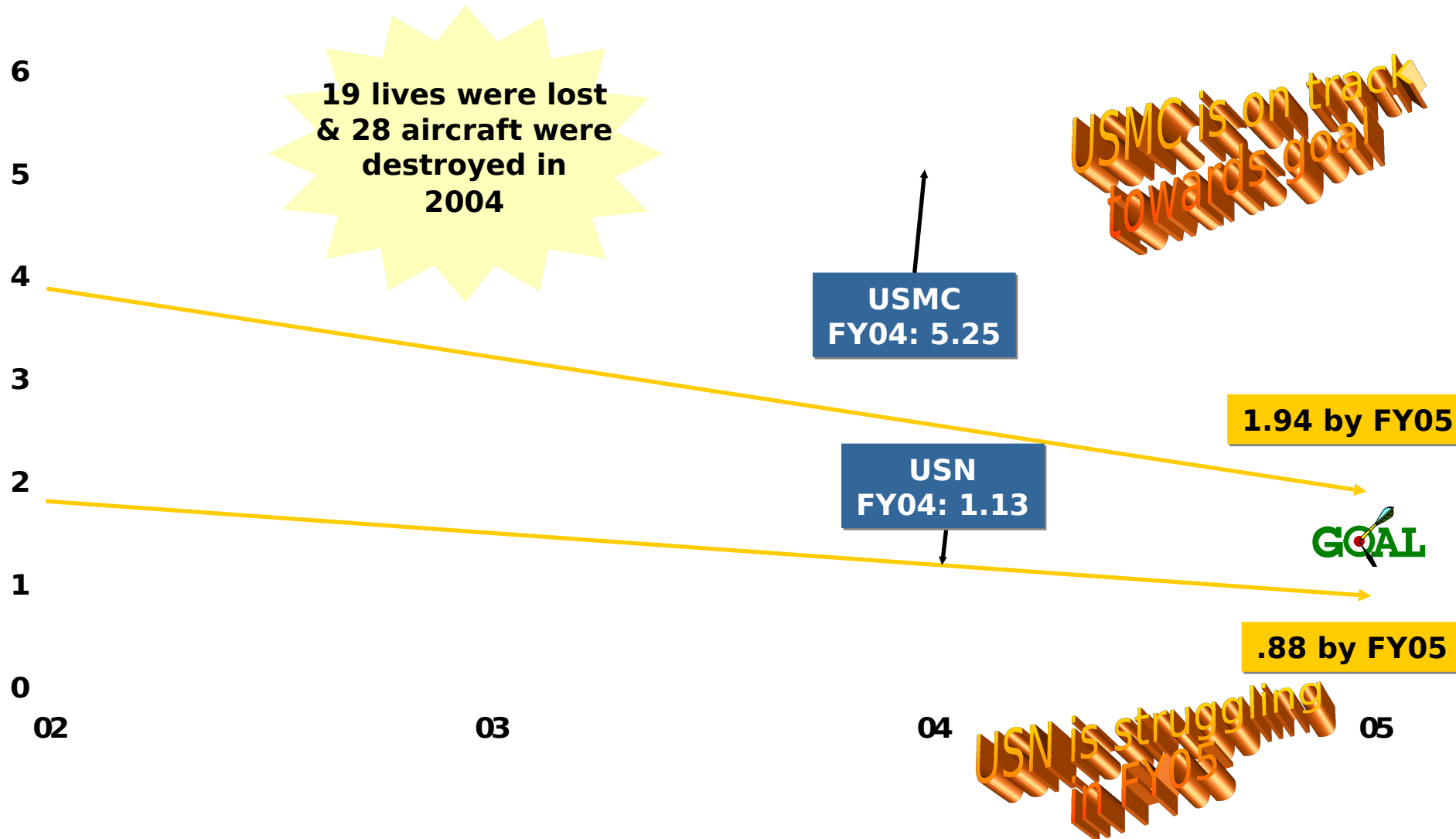
USN/USMC, FY50-05



NSC Data: 02 December 2004

Naval Aviation Mishap Trend

USN/USMC, FY02-04

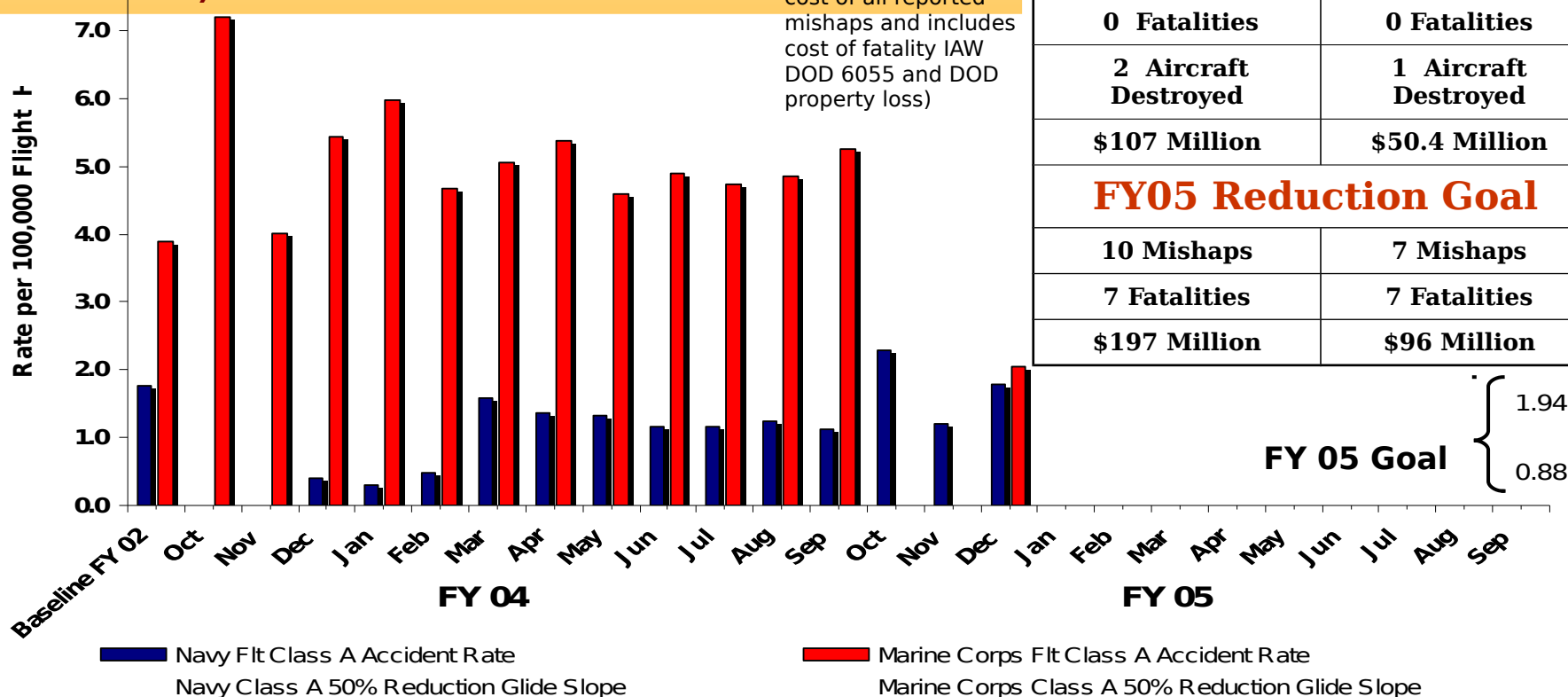


Status Check (Class-A Flight Mishaps)

Leading Causal Factors

- **Human Error (89%)**
 - Aircrew (breakdown in Crew Resource Management, poor decision making, failure to properly perform emergency procedures)
 - Supervisory (failure to provide adequate guidance and training)
- **Material/Systems Malfunction (11%)**
 - Material/component catastrophic failure (no human error involved)

(\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

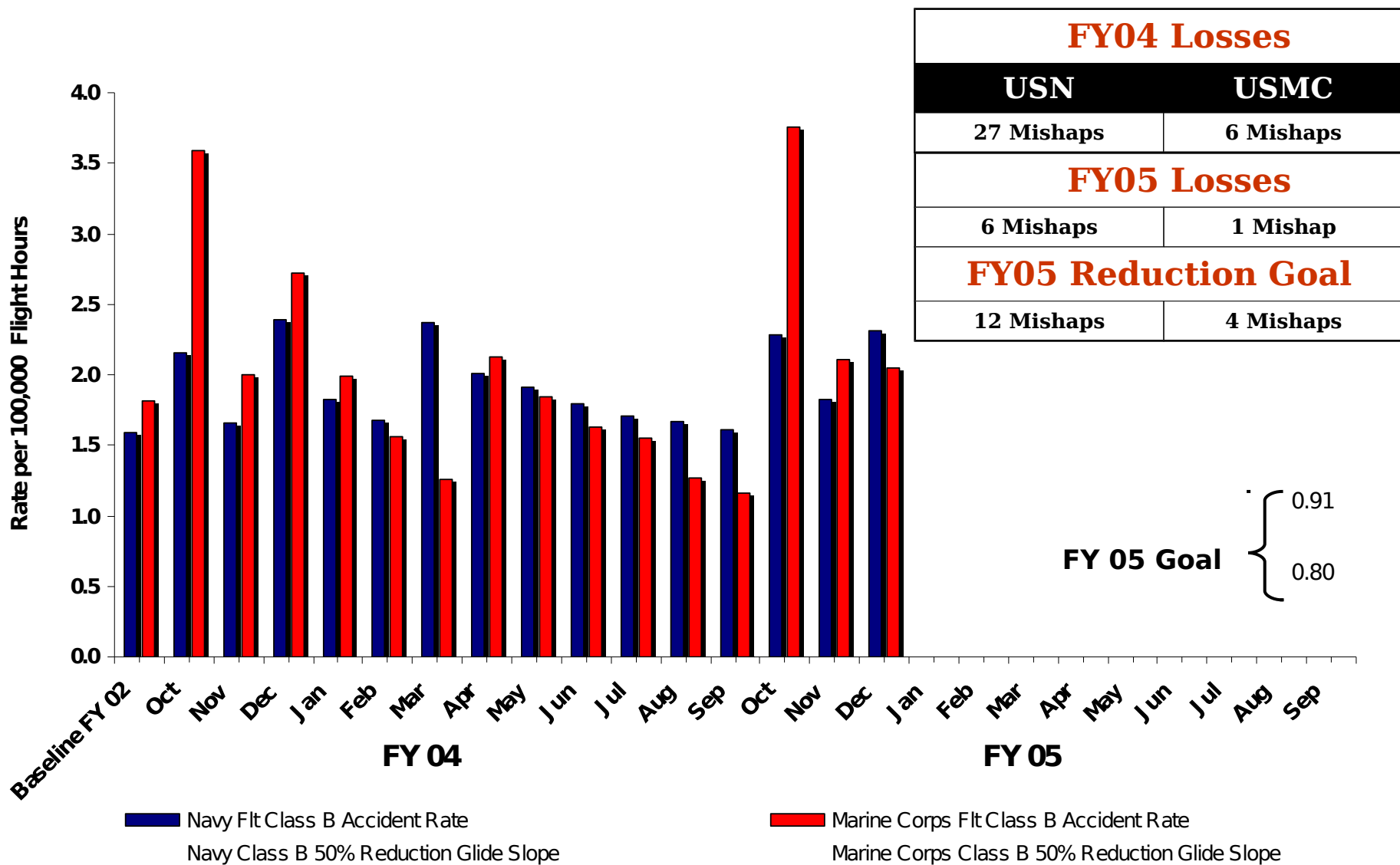


FY04 Losses

USN	USMC
12 Mishaps	18 Mishaps
5 Fatalities	14 Fatalities
9 Aircraft Destroyed	19 Aircraft Destroyed
\$487 Million	\$636 Million
FY05 Losses	
3 Mishaps	1 Mishap
0 Fatalities	0 Fatalities
2 Aircraft Destroyed	1 Aircraft Destroyed
\$107 Million	\$50.4 Million
FY05 Reduction Goal	
10 Mishaps	7 Mishaps
7 Fatalities	7 Fatalities
\$197 Million	\$96 Million

Status Check (Class-B Flight Mishaps)

1 year remains...



A photograph of a US Navy helicopter, possibly an AH-1Z Viper, being hoisted by a crane over the ocean. The helicopter is suspended in the air, tilted at an angle, with its landing gear and rotors visible. The background shows the sea and a clear sky. The text "Human Error.... The Major Problem" is overlaid in large, bold, orange letters.

Human Error.... The Major Problem

***Almost 9 out of 10 USN/USMC Class-A Flight
Mishaps
(FY97-01) involved human error.***

Human Error

USN/USMC, FY98-03

No. of Class-A Mishaps

USN Aviation  120 of 133

 HE 90%

Non-
HE
10%

USMC Aviation  62 of 71

 HE 87%

Non-
HE
13%

Navy Afloat  48 of 51

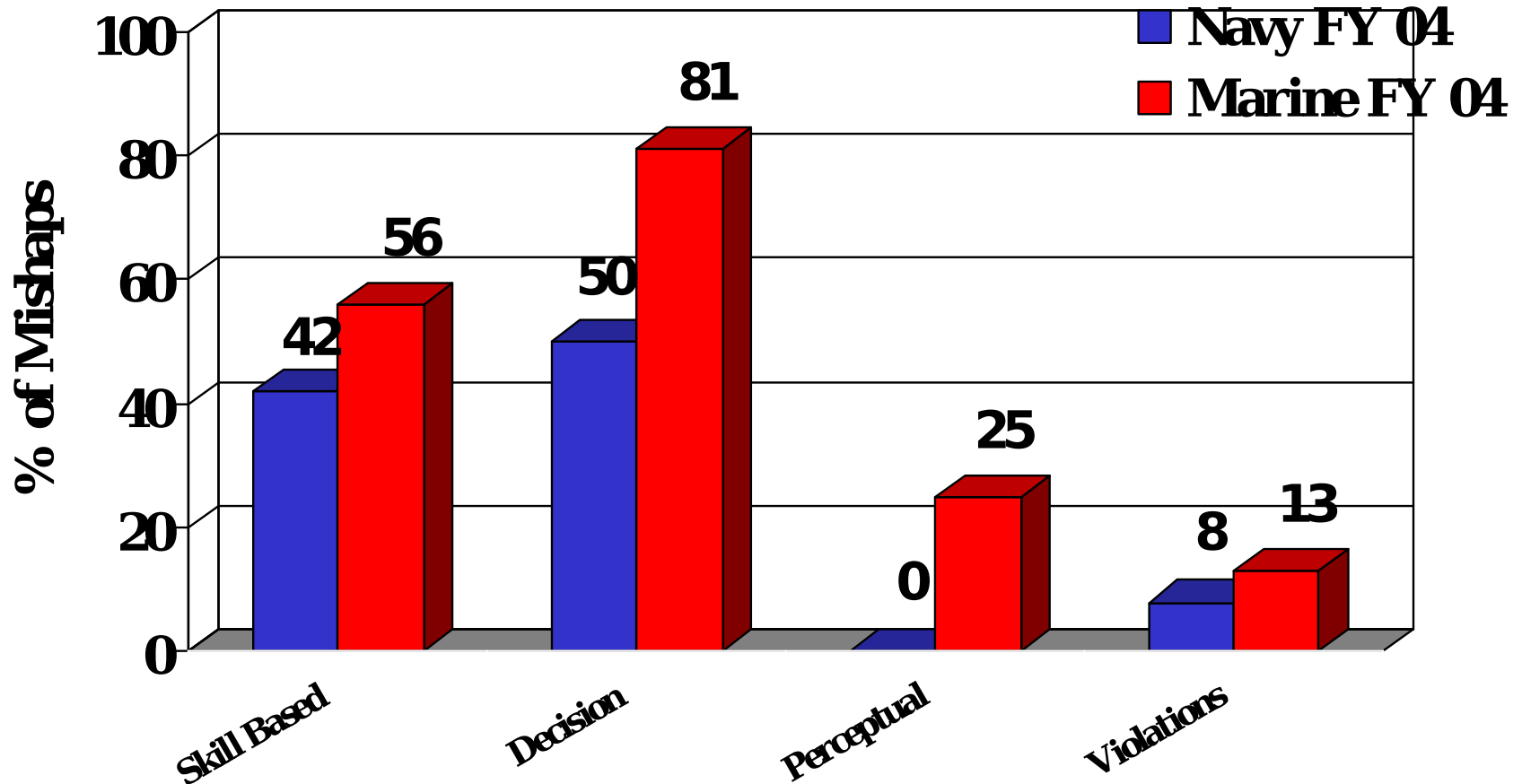
 HE 94%

Non-
HE
6%

Human Error

Human Factor Errors (FY04)

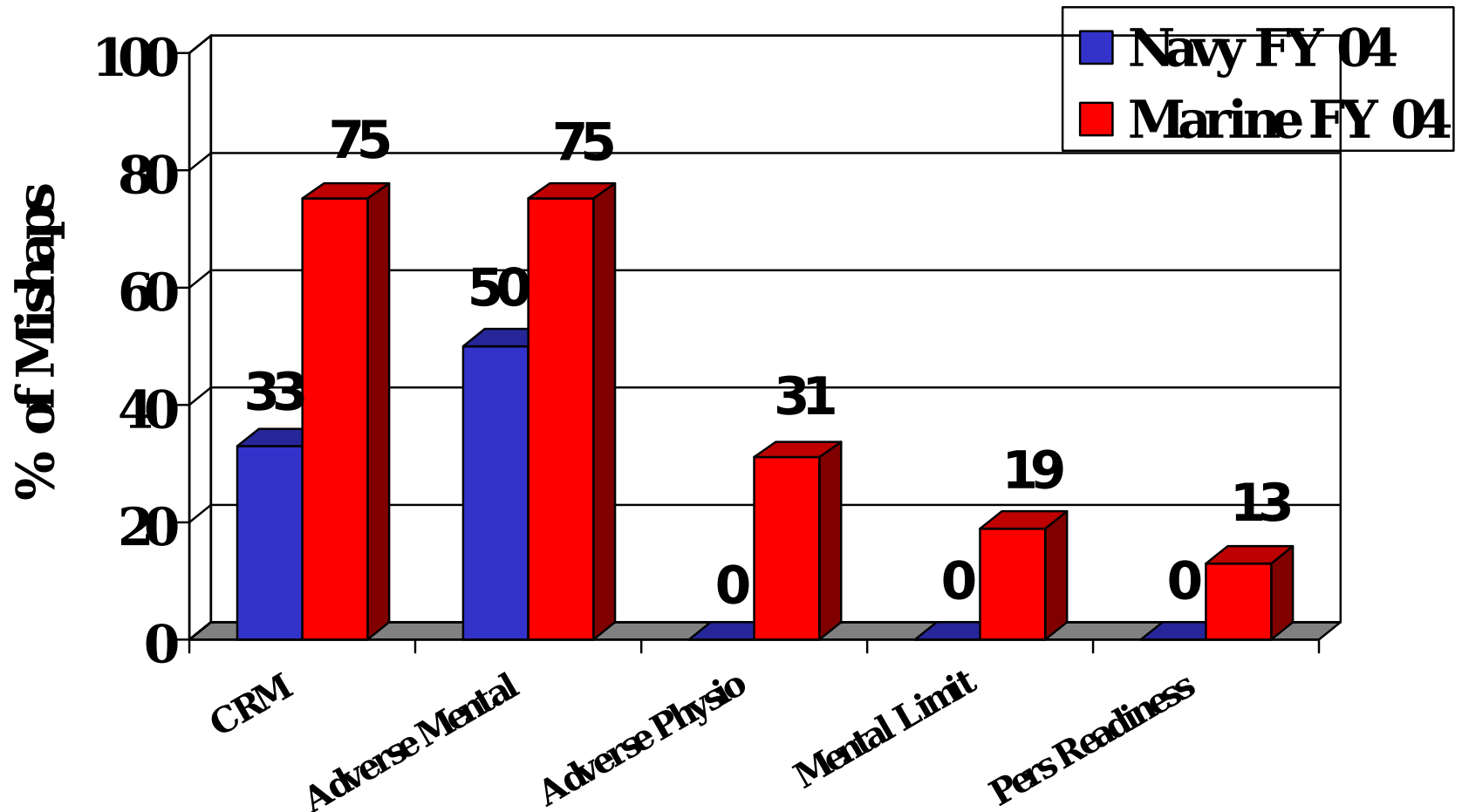
Unsafe Acts - Aircrew



Human Factor Errors (Unsafe Acts - Aircrew)

Human Factor Errors (FY04)

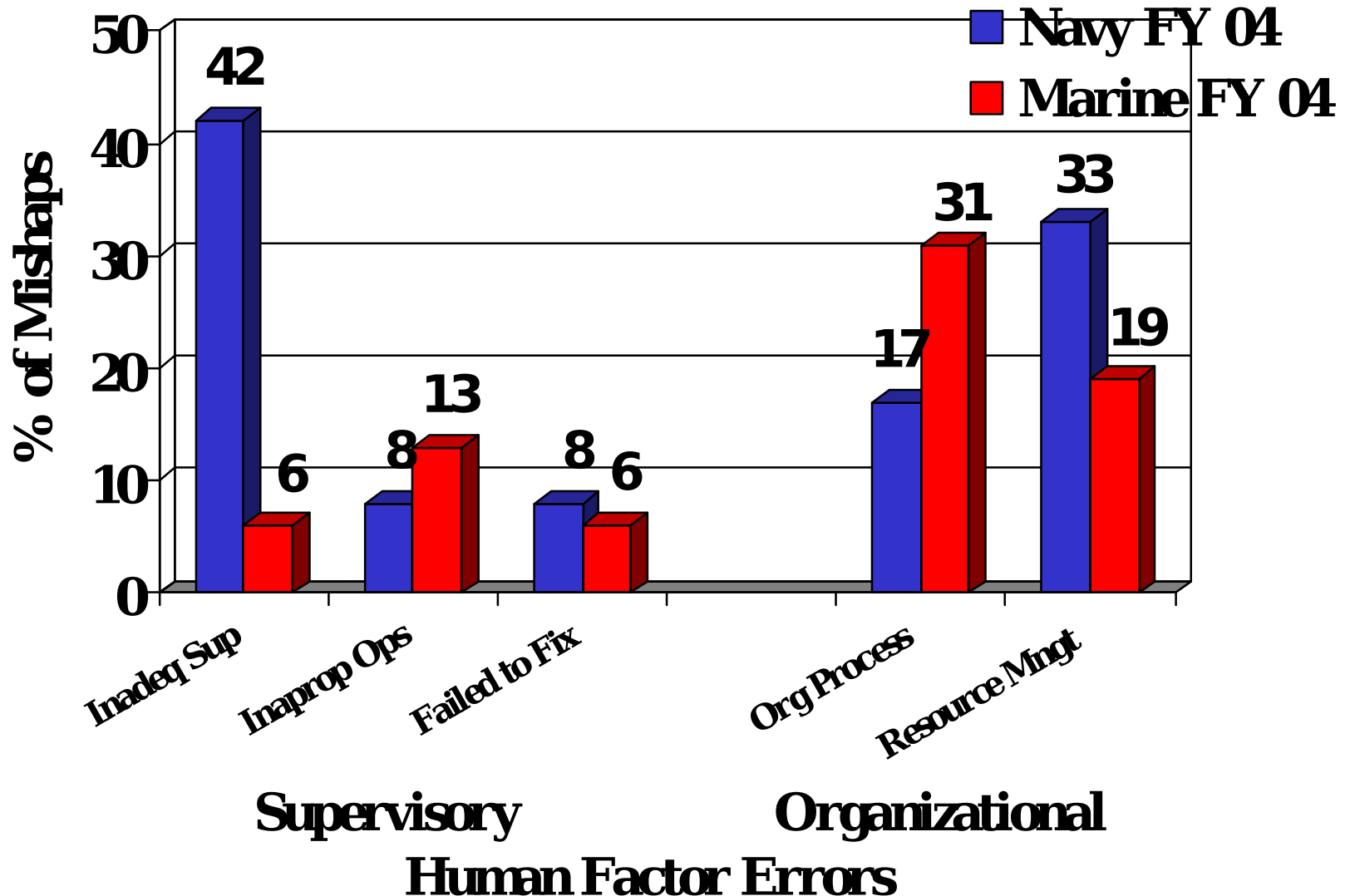
Preconditions - Aircrew



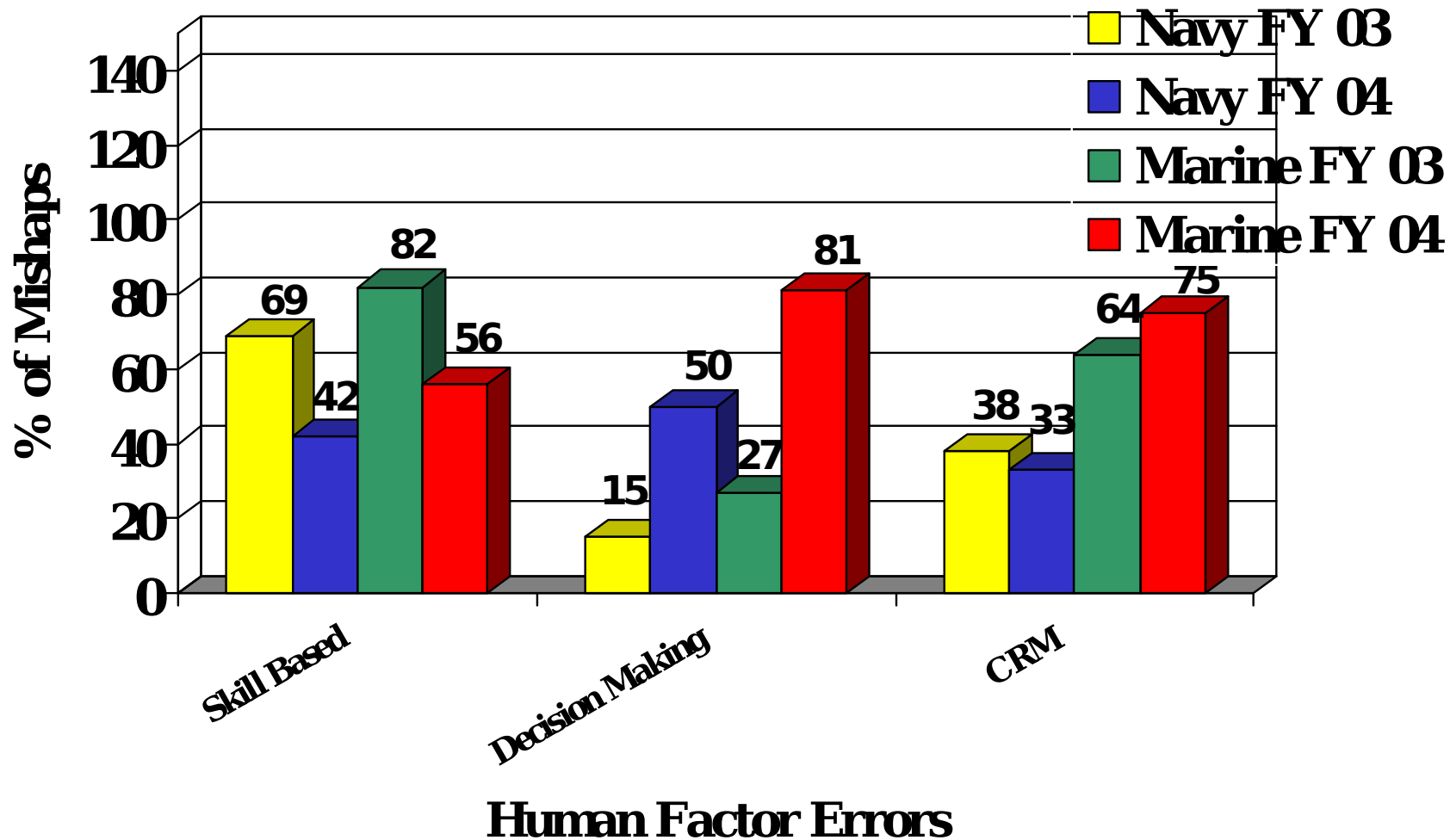
Human Factor Errors (Preconditions - Aircrew)

Human Factor Errors (FY04)

Supervisory and Organization



Human Factor Errors FY 04 compared to FY 03



AVIATION

TRENDS

Investigations

- **Human error (aircrew): Leading causal factor**
 - Skill-based

Survivor CRM failures

- **Many violations**
- **No experience**
- **Training quality/quantity**
- **NATOPS/technical pubs**
- **Cannibalization**

TAKEAWAYS

- **Fund state-of-art simulators and data centric systems**
- **Improve training**
- **Increase proficiency**
- **Institutionalize ORM**
- **Enforce standards**
- **Increase checks and balances**



Aviation Intervention Strategies



Survey Takeaways FY 2003

Safety Surveys on 90+ aviation co revealed:

- ☐ Aviation HAZREP submissions
- ☐ NAMP Program Knowledge/Compliance
- ☐ High OPTEMPO (real vs perceived pressure)
- ☐ Manning vs Utilization
- ☐ Flight Surgeon availability

Command Safety Assessment / Maintenance Climate Assessment Surveys

580 CSA's (approx. 19,000 aircrew)

❑ CSA observations (aircrew)

- **44% inadequate resources**
- **62% commands over-committed**

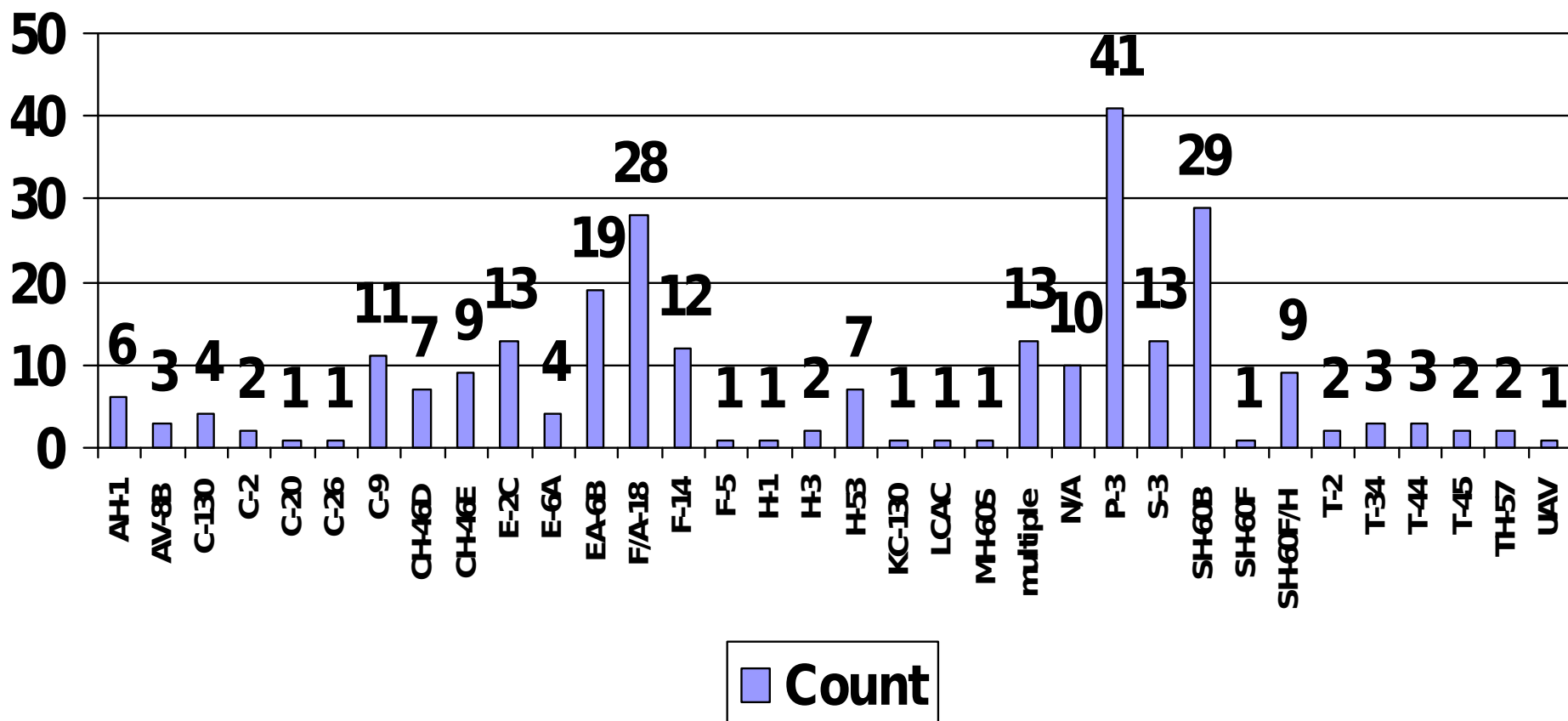
**550 MCAS's (approx. 48,000
maintainers)**

❑ MCAS observations (maintenance personnel)

- **27% “cutting corners” not discouraged**
- **51% inadequate command safety recognition**
- **32% ineffective pass-down between shifts**
- **49% poor communication up / down chain of command**

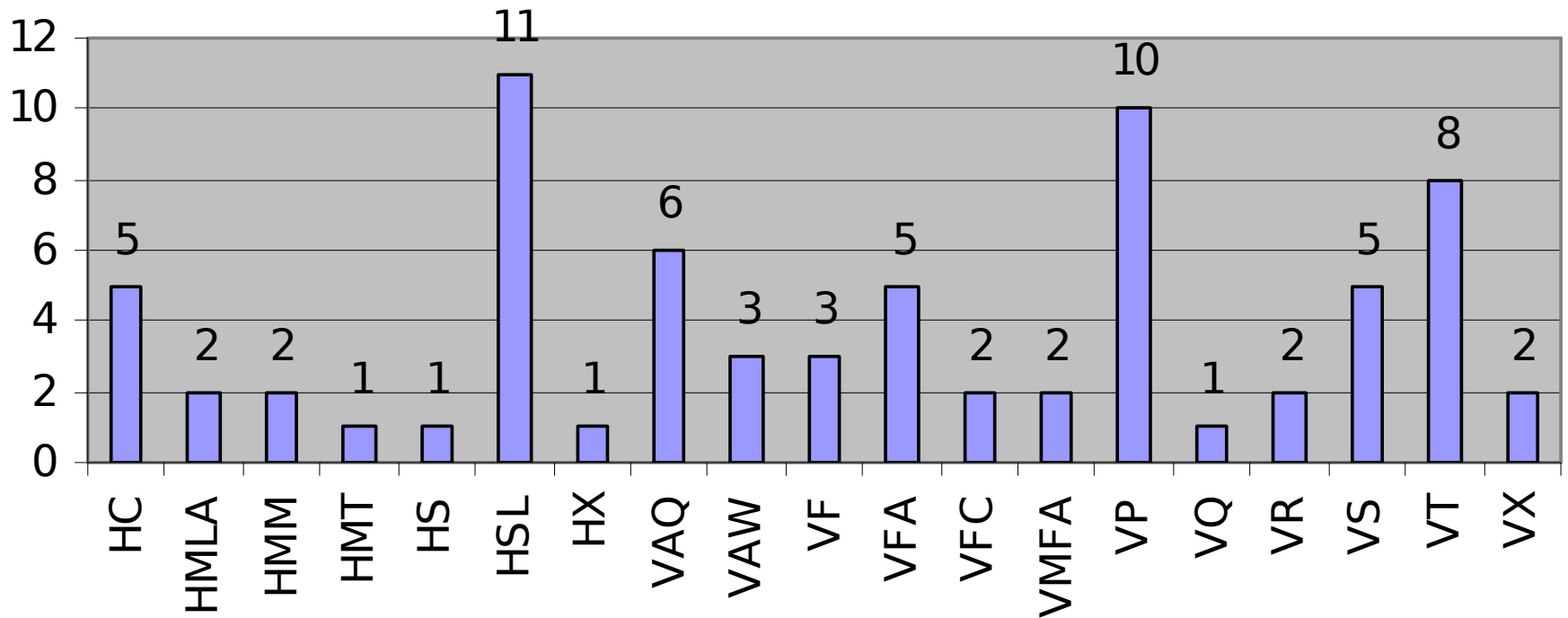
Culture Workshops

Completed By Aircraft Type Since FY01



Culture Workshops

FY04 NUMBER OF WORKSHOPS BY COMMUNITY



ORM and the Fleet

COURSE S

- **Curriculum.** CNET, NSC, and NAVOSHTRACEN courses incorporate ORM into curricula.
- **Training.** Aviation, Afloat, and Submarine survey teams provide ORM refresher training upon request. Aviation, Afloat, and Submarine safety officer schools provide instructor-level ORM training.
PCO/PCO/DH schools, DIVO training, and Senior Enlisted Academy provide training.

ON-LINE

- **On-Line Training.** Offered through CNAF's ORM University and USMC MarineNet. Resources available on NSC website. Total Risk Assessment and Control System (TRACS) & U.S. Army Motor Vehicle Risk Assessment Tool (ASMIS).

ORM

(OPNAVINST 3500.39B)

- AEAFAE msg announcing release and availability of instruction on NSC website 31Dec04
- Governs use of ORM throughout the Fleet
- "SHOULD" to "SHALL"

ORM Works!

Transition to RM a Must.
Need it On and Off-Duty!

MISHAP RATES

1990
2000
2004

ORM Introduced to Fleet
Aviation Mishap Rates Declining
Afloat and Submarine Communities Show Improvements

PERSPECTIVE

"IN 1968, WE LOST 99 AMERICAN
SAILORS IN USS SCORPION,
WHICH WE THINK OF AS
A NATIONAL DISASTER;
WHILE WE LOST
103 SAILORS AND MARINES
IN PMV ACCIDENTS IN 1998,
AND CALL IT OUR 'BEST YEAR'!"

ROBERT B. PIRIE

ACTING SECRETARY OF THE NAVY

20 JANUARY - 24 MAY 2001

WHY DO WE ACCEPT
MISHAPS?



Status Check (PMV Fatalities)

1 year remains...

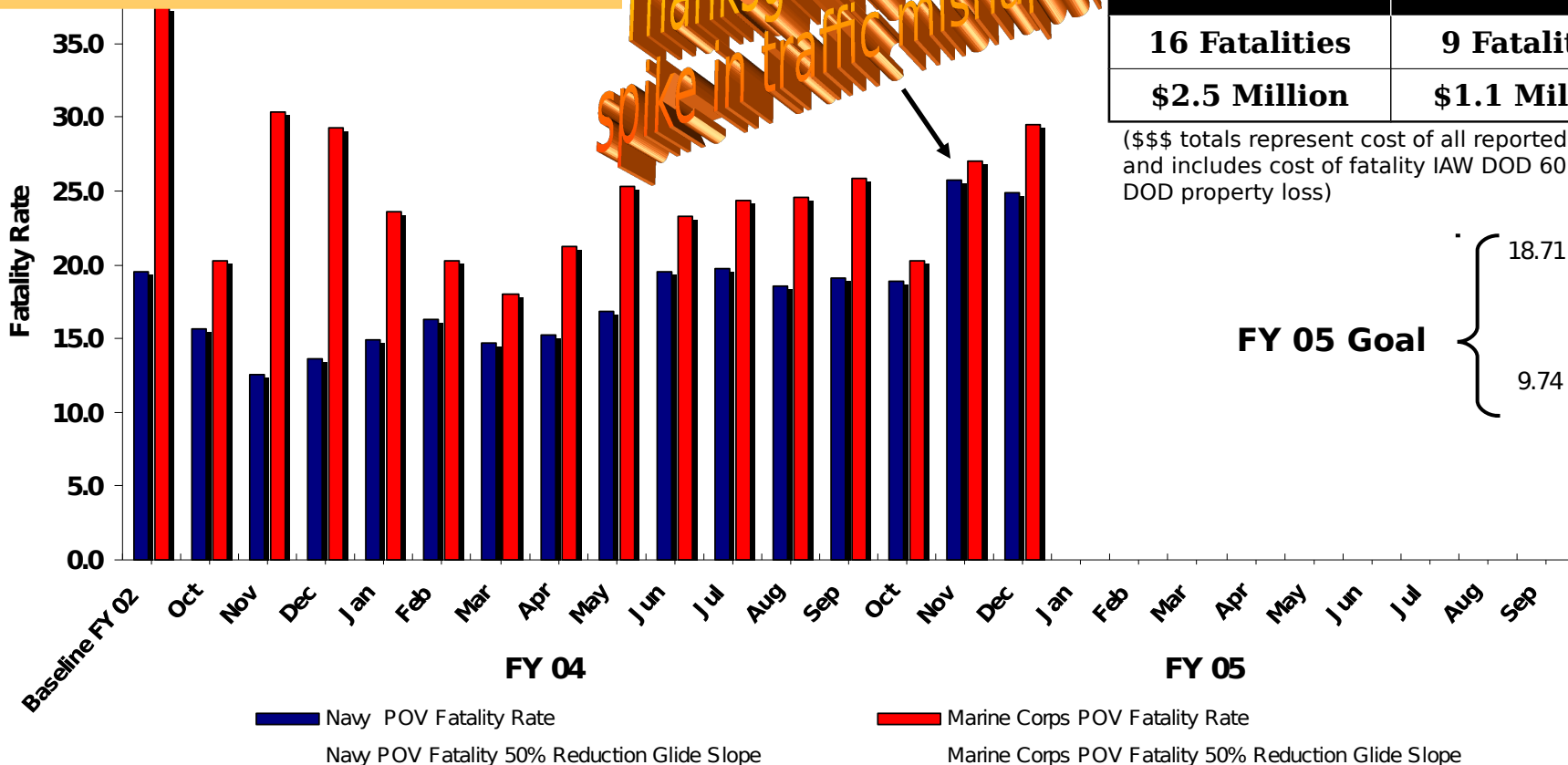
Top Causal Factors

WHEN

Nighttime Driving
Use
Weekends
Speed

WHY

No Seat Belt
Excessive
Alcohol
Fatigue



FY04 Losses

USN	USMC
73 Fatalities	46 Fatalities
\$13 Million	\$11.6 Million

FY05 Losses

USN	USMC
16 Fatalities	9 Fatalities
\$2.5 Million	\$1.1 Million

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

Factors in Traffic Deaths

USN/USMC, FY02-04

FY02-04 Deaths:

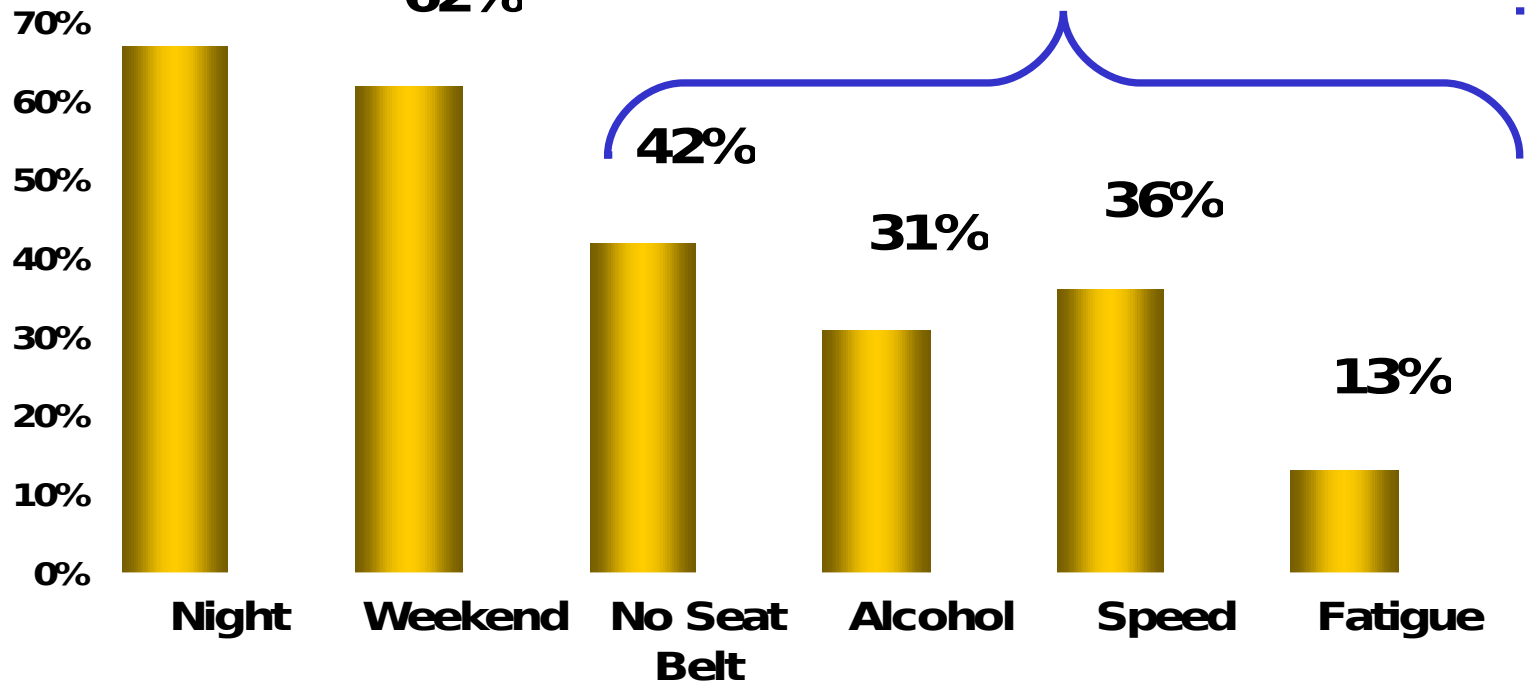
378

FY05 Deaths:

25

FY02: 140 **FY03: 119** **FY04:**
67% **119**

Where is the leadership?



Have your Sailors or Marines completed a required motorcycle safety course?

Video Clip: Motorcycle Mishap

***Are they operating their motorcycles
safely?***

Video Clip: Motorcycle Mishap

Click It or Ticket...
Do your personnel buckle up???

Video Clip: “Heaven Can Wait”

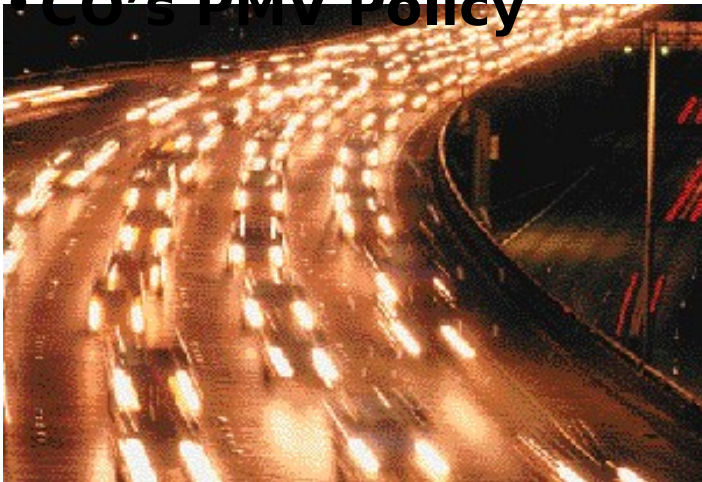
Toolbox for Motor Vehicle Safety

(www.safetycenter.navy.mil/ashore/motorvehicle/downloads/toolbox.doc)

- **Leave Chit Statement**
- **PMV Status Board**
- **Designated Driver / CMD Transport**
- **Pre-Trip Checklist / Brief / Counseling**
- **Calling card for emergencies**
- **CO's PMV Policy**



- **PMV Safety Quiz**
- **Safety Standdowns / Seminars**
- **Pre - Holiday Briefs**
- **Newcomer orientation/Indoc**
- **Leave / Liberty request**
- **Crash Prevention Awards Program**



Awareness is critical at all times for your personnel...

Video Clip: Pedestrian Mishap

What steps can you take to help prevent fatigued drivers?

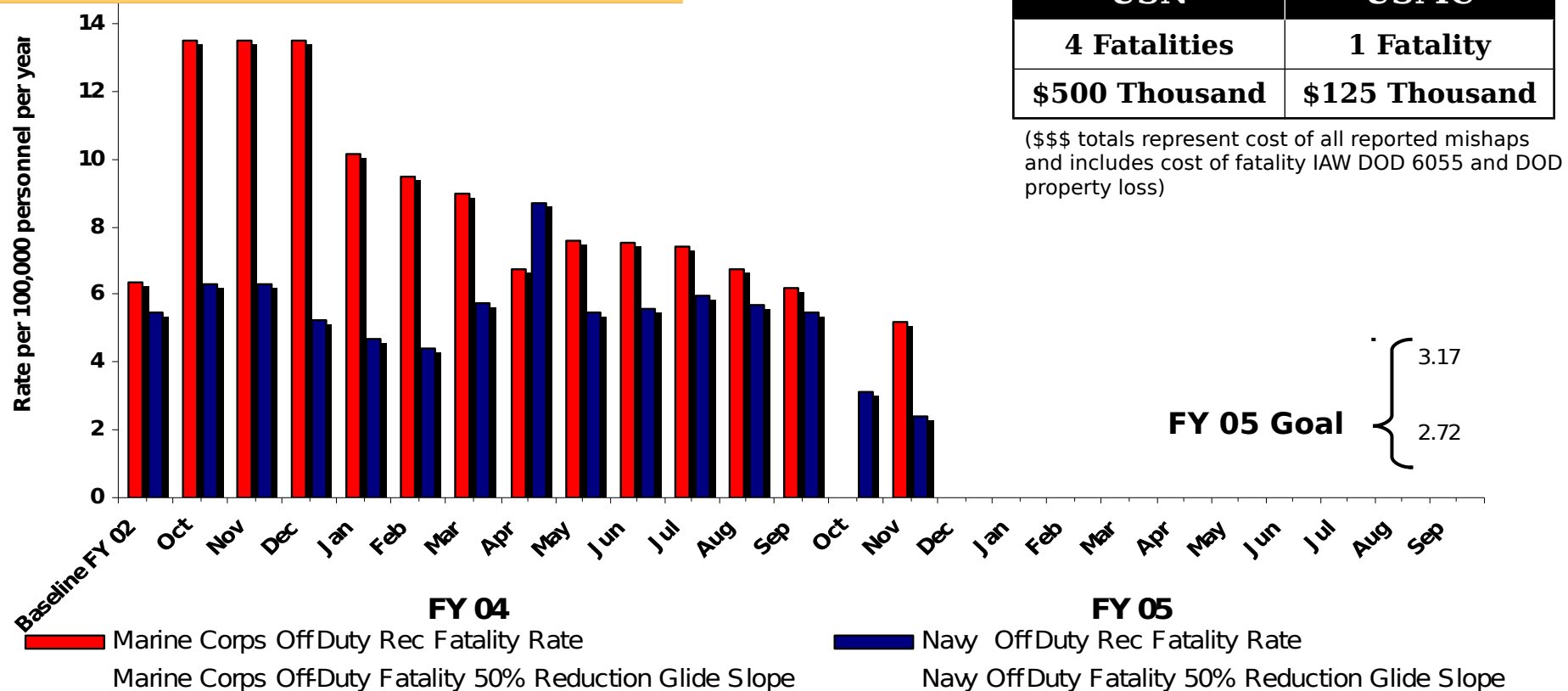
Video Clip: Seabelt

Status Check (Recreation/Off-Duty Fatalities)

1 year remains...

Leading Causes of Deaths & Injuries

- Drowning
- Falls
- Outdoor Recreation
- Team and Outdoor Sports
- Water Sports (jet skis, motorboat)
- Negligent firearms discharge



FY04 Losses

USN

21 Fatalities

\$6.6 Million

USMC

11 Fatalities

\$2.9 Million

FY05 Losses

USN

4 Fatalities

\$500 Thousand

USMC

1 Fatality

\$125 Thousand

(\$\$\$ totals represent cost of all reported mishaps and includes cost of fatality IAW DOD 6055 and DOD property loss)

NSC Data: 02 December 2004

Not a good day on the water...

Video Clip: Jet Ski Mishap

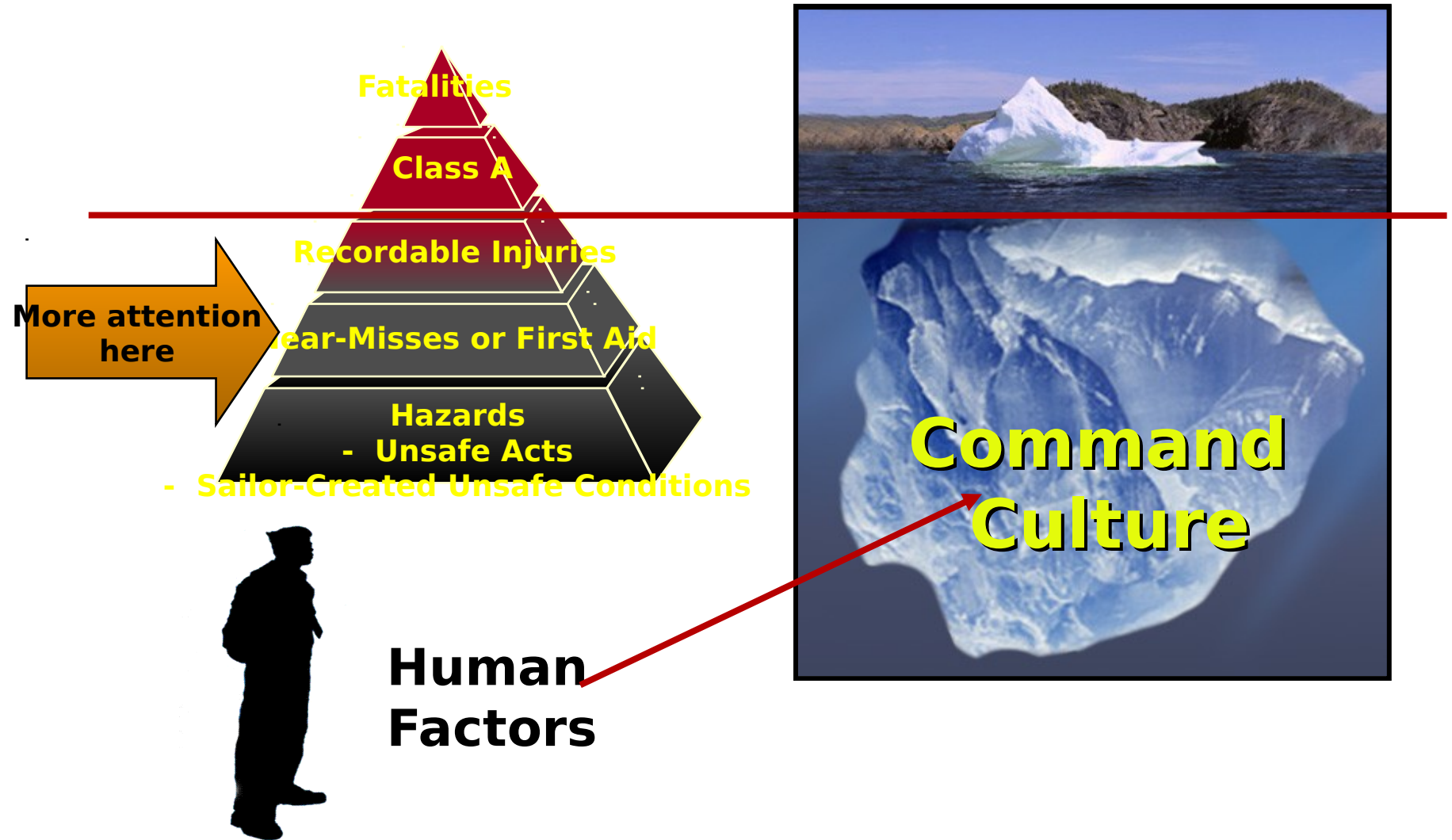
What do your Sailors or Marines do for fun??

Video Clip: Bicycle Mishap

Traffic and Off-Duty safety adherence is difficult to monitor but critical to overall success...


Video Clip: PMV/Seatbelt Mishap

Leaders Focus on Culture



How To Get There - What is “Actionable”

LEADERSHIP  CO sets the climate

1. Ensure you have a consistent “Safety Structure”
2. Mentor - On and Off duty
 - 2nd MAW Mentoring Program / Revise leave chits to a “contract”
 - What are your Sailors/Marines doing after hours?
 - The “leadership hungry” PO3
 - Look for the signs “Below the Waterline!”
3. ORM  RM
 - Take it off-duty (**ORM is not “THERE” yet**)
4. Awareness - Can we improve if Sailors don’t know about Mishap Reduction Campaign???
5. Accountability - A Command with no PMV program?
6. Reporting - Hazreps? Class B, C,

A Class “A” is a Class “A” is a Class “A”

- Does a Parent “care” how their Son or Daughter died?

Are We Serious About Safety?

- Commander Accountability
 - Class A Flight Mishap vs. Class A PMV
 - Weak NATOPS program; No involvement; Bad climate
 - No PMV program; No mentorship; Bad climate
 - On and Off-Duty Responsibility
 - Proactive vs. Reactive
- Was it preventable?
- Human factors
- Command Safety “Structure”

***Safety “Climate” vs. Safety
“Nazi”***

We're Serious About Parts of Safety

THE BUILDING BLOCKS OF SAFETY



DESIRED END STATE

Every Sailor possesses an ever-present and intuitive safety awareness that he or she carries at all times - at sea, on deployment, at work, at home, on liberty and leave.

Is It Possible?

- **“Platform” Type Mishaps - YES!**
- **“Off-Duty” Mishaps - HARD.**
 - ***Can be done - but CHANGE a MUST!***
- ***Human Error - The “KEYS” of the realm***

What We Can Do for You

Naval Safety Center



Providing aviation, afloat, and shore support
to Navy and Marine Corps commands



NSC at your service... for free!

Let our experience, expertise and unrivaled
commitment to safety work for you.

Mishap Investigations

Surveys

Assist Visits

Data Analysis

Workshops

Publications

Website

Presentations

Exhibits

Call 757-444-3520 (DSN 564) or visit our website: www.safetycenter.navy.mil

ON THE ROAD

- Culture workshops
- Unit surveys
- ORM unit training
- Mishap investigations
- USMC MTT seminars
- PCO briefings
- NAVOSHENVTRACEN Safety & Occupational Health Training

AWARENESS

- Fleet Analysis
- Magazines printed/distributed (473,000 copies)
- Interactive CD's
- Acquisition process in-roads
- Safety advisories
- Customer information requests (3,600+ database queries per month)
- Safety Center web page



Questions?

